AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-5. (canceled).

6. (new): A method of controlling an electronic cam type rotary cutter or sealer driven by a servo motor, the method comprising:

preparing a correct position pattern for a whole region including cutting or sealing and non-cutting or non-sealing zones;

using an electronic cam curve of a cubic function as a position pattern for the non-cutting or nonsealing zone;

using an electronic cam curve of a quadratic function as a speed pattern ;

forming a position loop in the whole region on the basis of the electronic cam curves,

thereby performing a position control at every moment on the basis of said prepared correct position pattern, whereby a control is enabled causing a single algorithm to automatically cope with a long and short cutting or sealing operations and a change of a line speed.

7. (new): A method of claim 6, wherein said electronic cam curve of said cubic function is used as a position command for said non-cutting zone with a resulting velocity in a quadratic function to decrease a root mean square of a torque of said servo motor.

8. (new): A method of claim 6 or 7, wherein a speed pattern of a spiral blade due to a cam curve diagram is identical with the line speed in a cutting zone and,

the speed pattern of a spiral blade due to a cam curve diagram is a quadratic curve which is raised in the short cutting operation, and a quadratic curve which is reduced in the long cutting operation, and

a speed pattern of a straight blade is a pattern which is different from the spiral blade in that only the speed in the cutting zone is proportional to $1/\cos\theta$.

9. (new): A method of claim 6 further comprising:

performing a sealing work or a cutting work, in synchronization with a workpiece in a specific phase zone of one cycle of said rotary cutter;

using said cubic function according to a continuous correlation control system including a prediction to a start of a work in a next cycle, and

obtaining an optimum electronic cam curve while allowing a cut length of the workpiece to automatically perform correspondence irrespective of a value of peripheral length/M (M = 1, 2, ...), M being the number of blades.

10. (new): A method of producing an electronic cam curve according to claim 9, wherein a rotational speed n_2 and a rotational position y_2 of the cutting blade in the sealing zone or the cutting zone are

$$n_2 = N_1 \qquad \text{(rpm)}$$

$$y_2 = (1/M - y_1) / (Tc - t_3) \times (t - Tc) + 1/M \qquad \text{(rev)}$$

where N_1 is the line speed at a start point Y_1 is a rotational position of a cutting start point, t_3 is a time of the cutting start point, and Tc is one cycle time,

a curve equation of the non-cutting zone is a cubic function having four coefficients satisfying four boundary conditions of velocities V_1 and V_2 and positions X_1 and X_2 at times T_1 and T_2, a position x and a speed v which is obtained by differentiating the position x are indicated by

$$x = At^3 + Bt^2 + Ct + D \qquad \text{(rev)}$$

$$v = 3At^2 + 2Bt + C \qquad \text{(rps),}$$

(T_1, X_1) and (T_2, X_2) are substituted into equation x, (T_1, V_1) and (T_2, V_2) are substituted into equation v, the equations are solved for A, B, C, and D, $T_1 = 0$, $T_2 = t_3$, $X_1 = 0$, $X_2 = Y_1$, $V_1 = N_1/60$, and $V_2 = N_1/60$ are substituted to obtain A, 8, C, and D, and

cam curve equations at a rotational speed = n_1 and a rotational position = y_1 in the non-cutting zone, and the rotational speed n_2 and the rotational position y_2 in the cutting zone are obtained as

$$n_1 = 60\ (3At^2 + 2Bt + C) \qquad \text{(rpm)}$$

$$n_2 = N_1 \text{ (constant)} \qquad \text{(rpm)}$$

$$y_1 = At^3 + Bt^2 + Ct + D\ (\qquad \text{(rev)}$$

$$y_2 = (1/M - Y_1) / (Tc - t_3) \times (t - Tc) + 1/M \qquad \text{(rev)}$$